

## AMENDMENTS TO THE CLAIMS

1. **(Currently Amended)** A substrate processing system comprising:
  - a gas supply source for supplying a first process gas containing a first reactive substance;
  - a reservoir tank connected to said gas supply source for reserving said the first process gas;
  - a reactor connected to said reservoir tank for exposing a substrate placed therein to said the first process gas;
  - a first circulation pipe for introducing the first process gas ~~inside~~ from said reactor ~~into~~ to said reservoir tank;
  - a second circulation pipe for introducing at least part of the first process gas ~~in~~ from said reservoir tank ~~into~~ to said reactor; and
  - a flow regulating valve disposed in said second circulation pipe ~~for regulating the amount of process gas to be introduced into said reactor;~~
  - a pressure pump disposed between said reactor and said reservoir tank, said pressure pump being operative to generate a pressure difference between said reactor and said reservoir tank to cause the first process gas to flow from said reactor to said reservoir tank;
  - a pressure pump upstream valve disposed between said reactor and said pressure pump;
  - a pressure pump downstream valve disposed between said pressure pump and said reservoir tank;
  - a turbo-molecular pump connected to said reactor;
  - a turbo-molecular pump upstream valve disposed between said reactor and said turbo-molecular pump;
  - a dry pump disposed downstream of said turbo-molecular pump;
  - a second gas supply source for supplying a second process gas containing a second reactive

substance, which is different from the first reactive substance, to said reactor; and

a bypass pipe connecting said second gas supply source to said reactor such that the second process gas can be supplied to said reactor without passing through said reservoir tank.

***Claims 2-4 Cancelled.***

5. (New) A substrate processing method using a substrate processing system comprising:
- a gas supply source for supplying a first process gas containing a first reactive substance;
  - a reservoir tank for reserving the first process gas;
  - a reactor for exposing a substrate placed therein to the first process gas;
  - a first circulation pipe for introducing the first process gas from the reactor to the reservoir tank;
  - a second circulation pipe for introducing at least part of the first process gas from the reservoir tank to the reactor;
  - a flow regulating valve disposed in the second circulation pipe;
  - a pressure pump disposed between the reactor and the reservoir tank, the pressure pump being operative to generate a pressure difference between the reactor and the reservoir tank to cause the first process gas to flow from the reactor to the reservoir tank;
  - a pressure pump upstream valve disposed between the reactor and the pressure pump;
  - a pressure pump downstream valve disposed between the pressure pump and the reservoir tank;
  - a turbo-molecular pump connected to the reactor;
  - a turbo-molecular pump upstream valve disposed between the reactor and the turbo-molecular pump; and
  - a dry pump disposed downstream of the turbo-molecular pump,

said substrate processing method comprising:

supplying the first process gas to the reservoir tank;

opening the turbo-molecular pump upstream valve after said supplying of the first process gas to the reservoir tank;

operating the turbo-molecular pump and the dry pump to reduce the pressure inside the reactor after said opening of the turbo-molecular pump upstream valve;

closing the turbo-molecular pump upstream valve after said operating of the turbo-molecular pump and the dry pump;

opening the pressure pump upstream valve, the pressure pump downstream valve, and the flow regulating valve; and closing any other valves connected to the reactor to allow the first process gas to flow from the reservoir tank to the reactor after said closing of the turbo-molecular pump upstream valve; and

operating the pressure pump to generate a pressure difference between the reactor and the reservoir tank to cause the first process gas to flow from the reactor to the reservoir tank, wherein the pressure pump is operated after said opening of the pressure pump upstream valve, the pressure pump downstream valve, and the flow regulating valve, and after said closing of the other valves connected to the reactor.

6. (New) The substrate processing method according to claim 5, further comprising supplying a second process gas to the reactor such that the second process gas bypasses the reservoir tank, wherein the second process gas contains a second reactive substance that is different from the first reactive substance.

7. (New) The substrate processing method according to claim 5, wherein the first process gas is continuously circulated through a circuit formed by the reactor, the pressure pump, the first circulation pipe, the reservoir tank, and the second circulation pipe.

8. (New) The substrate processing system of claim 1, wherein said pressure pump is disposed between said reactor and said first circulation pipe such the pressure difference causes the first process gas to flow from said reactor to said reservoir tank through said first circulation pipe.